

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATIONS**

CONTOUR BUFFER STRIPS

(Acre)
CODE 332

CRITICAL SLOPE LENGTH AND STRIP WIDTH DESIGN

The maximum width of the strips will be designed using table 6-4 and 6-8 of the RUSLE Agriculture Handbook 703, and figure 1.

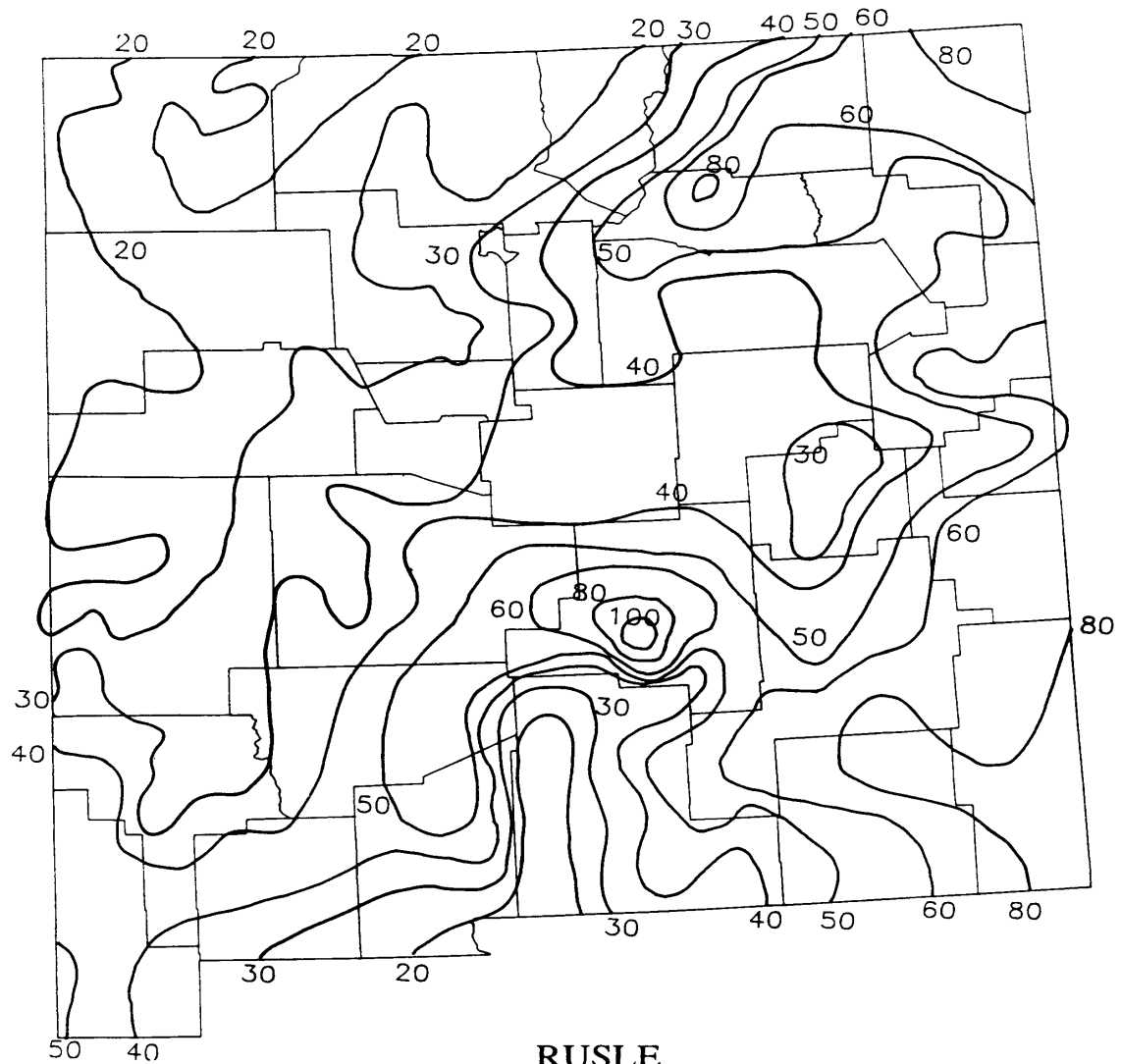
RUSLE Agriculture Handbook 703 Table 6-4.

Description of cropland cover-management conditions used in RUSLE for estimating P-factor values.

Number	Condition Name	Description of Condition
C1	Established meadow (<i>very dense cover</i>)	Grass is dense and runoff is very slow, about the slowest under any vegetative. Becomes condition 2 when mowed and baled.
C2	1st yr meadow hay (<i>mod. dense cover</i>)	Hay is a mixture of grass and legume just before cutting. Meadow is a good stand of grass that is nearing the end of 1 st yr. Becomes condition 4 when mowed and baled.
C3.	Heavy (<i>dense</i>) cover or very rough or both	Ground cover for this condition is about 75-95%. Roughness is like that left by a high-clearance moldboard plow on a heavy-textured soil. Roughness depressions appear 7 or more inches deep. Vegetative hydraulic roughness like that from a good legume crop (such as lespedeza) that has not been mowed.
C4.	Moderate cover or rough or both	Ground cover for this condition is about 40-65%. Roughness is like that left by a moldboard plow in a medium-textured soil. Depressions appear 4-6 in deep. Vegetative hydraulic roughness is similar to that produced by winter small grain at full maturity.
C5	Light cover or moderate roughness or both	Ground surface cover is 10-30%. Surface roughness is like that left by first pass of tandem disk over a medium-textured soil that has been moldboard plowed. This roughness could also be similar to that left after a chisel plow through a medium textured soil at optimum moisture conditions for tillage. Roughness depressions appear 2-3 in deep. In terms of hydraulic roughness produced by vegetation, this condition is similar to that produced by spring small grain at about 3/4 maturity.
C6	No cover or minimal roughness or both	This condition closely resembles the condition typically found in row cropped fields after the field has been planted and exposed to a moderately intense rainfall. Ground cover is less than about 5%. Roughness is like that of a good seedbed for corn or soybeans. Surface is rougher than that of a finely pulverized seedbed for seeding vegetables.
C7	Clean-tilled, smooth, fallow	Surface is essentially bare, 5% or less of cover. Soil has not had a crop grown on it in the last 6 mo. or more, so much of the residual effects of previous cropping has disappeared. Surface is smooth; similar to the surface that develops on a very finely pulverized seedbed exposed to several intense rainfalls. This condition is most likely found in fallow and vegetable fields.

Conservation practice standards are reviewed periodically, and updated as needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

Figure 1 Storm Erosivity for a 10 year event from Ag Handbook 703



Ten Year EI Curves for New Mexico

Source: ARS Update of Ag. Handbook 537 -
Draft Ag. Handbook (Unnumbered)
Figure 2-10 pp 38. 10/30/92

Table 6-8 of the RUSLE Handbook 703.Critical Slope Length as a function of $(EI)_{10}$.¹

For cover-management condition²							
$(EI)_{10}$ Storm Erosivity	C1 (ft)	C2 (ft)	C3 (ft)	C4 (ft)	C5 (ft)	C6 (ft)	C7 (ft)
10	1000	1000	1000	1000	1000	1000	933
25	1000	1000	1000	1000	1000	824	348
50	1000	1000	1000	1000	885	387	184
75	1000	1000	1000	1000	666	294	144
100	1000	1000	1000	1000	446	201	104
200	1000	1000	1000	579	243	111	61

¹7% Slope, Hydrologic soil group C²Cover-management condition are defined in table 6-4

Example: In mid part of Roosevelt Co. a producer wants to apply strips to a 160-acre field. The slope is 6% and is very uniform. The L(length of slope) from Agronomy Technical Note 28 is 1000 feet. They grow sorghum and winter wheat. They do not have much cover (approx. 5%) when planting the sorghum as they graze the stubble in the winter. What is the critical slope length?

1st-Find the EI (Storm Erosivity) from Figure 1. They mid way in the county and we are allowed to divide the isolines one time, so 70 is mid way from 60 to 80. **Select 70.**

2nd-Determine the Cover-Management condition that will be on the cropped strips for the mid-summer part of the rotation. Look on table 6-4 for the sorghum condition; find that it matches the C6 condition. Use the highest number you find in the rotation. **Select C6.**

3rd-Find the critical slop length. Enter Table 6-8 (see above) with the field EI from Figure 1 (vertical axis), use 70 (75) and the Cover Management conditions from Table 6-4 (horizontal axis), use C6, find **Critical Slope length of 294 Feet.**

Specification - 332-4**APPROVED SEED LIST FOR MIXTURES**

Select the best mix adapted for the rainfall zone. See the Range Seeding Specification 550 for assistance.

Seed Characteristics and Seeding Rates					
Name	Seeds/lbs	Ave Pure	Ave Germ	Seeds/ft²/ 1lbs/ac	Native (N)
Alfalfa	225,000	99	85	5.2	
Big Bluestem	917,000	90	70	21	N
Big Trefoil	828,000	98	47	23	
Birdsfoot Trefoil	418,000	98	47	9.6	
Blue Grama	1,335,000	40	60	31	N
Buffalo Grass	42,000	88	45	0.5	N
Bush Muhly	1,500,000	50	40	38	N
Cicer Milkvetch	122,000	90	40	2.8	
Fourwing Saltbush	30,000	80	50	1.1	N
Galleta	159,000	69	80	3.7	N
Indiangrass	175,000	89	53	4	N
Intermediate Wheatgrass	100,000	90	75	2.4	
Lehmann Lovegrass	4,245,000	90	60	99	
Little Bluestem	379,000	90	80	8.7	N
Meadow Brome	100,000	92	85	2.4	
Mountain Brome	90,000	90	85	1.6	N
Perennial Ryegrass	247,000	98	90	5.7	
Plains Bristlegrass	293,000	90	80	7	N
Pubescent Wheatgrass	91,000	90	85	2	
Rocky Mountain Penstemon	280,000	93	79	6.42	N
Sand Bluestem	125,000	70	69	2.9	N
Sand Lovegrass	1,550,000	93	75	35.6	
Sideoats Grama	143,000	60	50	3.3	N
Slender Wheatgrass	160,000	90	85	3.7	
Spike Muhly	1,635,000	50	50	38	N
Streambank Wheatgrass	170,000	97	92	3.6	
Sweetclover	262,000	99	85	6	
Switchgrass	278,000	95	62	6.4	N
Vine Mesquite	143,000	50	30	3.3	N
Weeping Lovegrass	1,463,000	90	90	34	
Western Wheatgrass	110,000	85	60	2.5	
White Clover	800,000	99	85	18	
Winterfat	150,000	52	80	3.3	N
Yellow Bluestem	475,000	60	70	10.9	

PLANS AND SPECIFICATIONS

Specifications for installation, operation, and maintenance of Contour Buffer Strips shall be prepared for each field according to the Criteria, Considerations, and Operations and Maintenance described in the standard, and shall be recorded on the 332 NM job sheet, and in narrative statements in the conservation plan.

NRCS, NM
March, 2001